

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled).
2. (original): A method of displaying a fluorescent-light image comprising
irradiating a target area with an illuminating light and a excitation light emitted from a
excitation light emitting means and a reference -light emitted from a reference -light emitting
means and which have been guided to said target area,
obtaining, by use of a single image obtaining means provided with separate image
obtaining portions for obtaining a fluorescent-light image, a standard-image, and a reflected-light
image, respectively, a fluorescent-light image formed of the fluorescent- light emitted from the
target area upon the irradiation thereof by the excitation light, a standard-image formed of the
reflected-light reflected from the target area upon the irradiation thereof by the illuminating light,
and a reflected-light image formed of the reflected-light reflected from the target area upon the
irradiation thereof by the reference-light, and
displaying a fluorescent-light image based on the obtained fluorescent-light image and
the obtained reflected-light image and a standard-image based on the obtained standard- image,
further comprising

detecting that an operational irregularity has occurred in at least one of the excitation light and reference-light emitting means, and in response to a detection signal thereof, emitting the illuminating-light, switching the image obtaining means to a standard-image obtaining mode, obtaining the standard-image, and displaying the standard-image.

3. (original): A method of displaying a fluorescent-light image comprising irradiating a target area with an illuminating light and a excitation light that has been emitted from a excitation light emitting means and guided to said target area, obtaining, by use of a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent-light image and a standard-image, respectively, a fluorescent-light image formed of the fluorescent-light emitted from the target area upon the irradiation thereof by the excitation light and a standard-image formed of the reflected- light reflected from the target area upon the irradiation thereof by the illuminating light, and displaying a fluorescent-light image based on the obtained fluorescent- light image and a standard- image based on the obtained standard-image, further comprising detecting that an operational irregularity has occurred in any one of the image obtaining portions, and in response to a detection signal thereof, emitting the illuminating-light,

obtaining, by use of the image obtaining portion that is not operating irregularly, a standard-image formed of the reflected-light reflected from the target area upon irradiation thereof by said illuminating-light, and
displaying the standard-image.

4. (original): A method of displaying a fluorescent-light image comprising
irradiating a target area with an illuminating light and a excitation light emitted from a excitation light emitting means and a reference - light emitted from a reference-light emitting means and which have been guided to said target area,

obtaining, by use of a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image, a standard-image, and a reflected-light image, respectively, a fluorescent-light image formed of the fluorescent- light emitted from the target area upon the irradiation thereof by the excitation light, a standard-image formed of the reflected- light reflected from the target area upon the irradiation thereof by the illuminating light, and a reflected-light image formed of the reflected-light reflected from the target area upon the irradiation thereof by the reference-light, and

displaying a fluorescent-light image based on the obtained fluorescent-light image and the obtained reflected-light image and a standard-image based on the obtained standard- image, further comprising

detecting that an operational irregularity has occurred in any one of the image obtaining portions, and in response to a detection signal thereof,

emitting the illuminating-light,
obtaining, by use of an image obtaining portion that is not operating irregularly, a
standard-image formed of the reflected-light reflected from the target area upon irradiation
thereof by said illuminating-light, and
displaying the standard-image.

5. (canceled).

6. (original): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting an excitation light,
illuminating-light emitting means for emitting an illuminating-light,
reference-light emitting means for emitting a reference-light,
light guiding means for guiding the excitation light, the illuminating-light, and the
reference-light to a target area,
a single image obtaining means provided with separate image obtaining portions for
obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area
upon the irradiation thereof by the excitation light, a standard-image formed of the reflected-light
reflected from the target area upon the irradiation thereof by the illuminating light, and a
reflected-light image formed of the reflected-light reflected from the target area upon the
irradiation thereof by the reference-light, respectively,

display means for displaying a fluorescent -light image based on the on the obtained fluorescent-light image and the obtained reflected-light image and a standard-image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the reference-light emitting means, the image obtaining means, and the display means, further comprising

emission output irregularity detecting means for detecting that an operational irregularity has occurred in at least one from among the excitation light emitting means and the reference-light emitting means, and

a standard-image display controlling means for causing, in response to a detection signal from said emission output irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to a standard-image obtaining mode, and the display means to switch to the standard-image display mode.

7. (original): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
light guiding means for guiding the excitation light and the illuminating-light to a target area,

a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area

upon the irradiation thereof by the excitation light and a standard-image formed of the reflected-light reflected from the target area upon the irradiation thereof by the illuminating light, respectively,

display means for displaying a fluorescent- light image based on the on the obtained fluorescent- light image and a standard- image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating-light emitting means, the image obtaining means, and the display means, further comprising

image-obtainment irregularity detecting means for detecting that an operational irregularity has occurred in any one of the image obtaining portions, and

a standard-image display controlling means for causing, in response to a detection signal from said image-obtainment irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to the image obtaining portion that is not operating irregularly, and the display means to switch to the standard-image display mode.

8. (original): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
reference-light emitting means for emitting a reference-light,

light guiding means for guiding the excitation light, the illuminating-light, and the reference-light to a target area,

a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area upon the irradiation thereof by the excitation light, a standard-image formed of the reflected-light reflected from the target area upon the irradiation thereof by the illuminating light, and a reflected-light image formed of the reflected-light reflected from the target area upon the irradiation thereof by the reference-light, respectively,

display means for displaying a fluorescent -light image based on the on the obtained fluorescent-light image and the obtained reflected-light image and a standard-image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the reference-light emitting means, the image obtaining means, and the display means, further comprising

image-obtainment irregularity detecting means for detecting that an operational irregularity has occurred in any one of the image obtaining portions, and

a standard-image display controlling means for causing, in response to a detection signal from said image-obtainment irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to an image obtaining portion that is not operating irregularly, and the display means to switch to the standard-image display mode.

9. (original): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
light guiding means for guiding the excitation light and the illuminating-light to a target
area,

a single image obtaining means provided with separate image obtaining portions f or
obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area
upon the irradiation thereof by the excitation light and a standard-image formed of the reflected-
light reflected from the target area upon the irradiation thereof by the illuminating light,
respectively,

display means for displaying a fluorescent- light image based on the on the obtained
fluorescent- light image and a standard-image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means,
the illuminating-light emitting means, the image obtaining means, and the display means,

a excitation light emission control line, an illuminating-light emission control line, an
image obtainment control line, and a display control line, for electrically connecting the
excitation light emitting means, the illuminating light-emitting means, the image obtaining
means, and the display means, respectively, to the image display controlling means, wherein

the illuminating-light means emits the illuminating-light in response to the control signal
of the illuminating-light emission control line being in the OFF state,

the image obtaining means switches to a standard-image obtaining mode in response to the control signal of the image obtainment control line being in the OFF state,

the display means switches to the standard-image obtaining mode in response to the control signal of the display control line being in the OFF state, further comprising

a disconnection detecting means for detecting that at least one control line from among the illuminating-light emission control line, the image obtainment control line, and the display control line is disconnected, and

a standard-image display controlling means for causing, in response to a detection signal from said disconnection detecting means, the control signal of the control line of from among the illuminating-light emission control line, the image obtainment emission control line, and the display control line that have not been disconnected to be in the OFF state.

10. (original): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
reference-light emitting means for emitting a reference-light,
light guiding means for guiding the excitation light, the illuminating-light, and the
reference-light to a target area,

a single image obtaining means provided with separate image obtaining portions for
obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area
upon the irradiation thereof by the excitation light, a standard-image formed of the reflected-light

reflected from the target area upon the irradiation thereof by the illuminating light, and a reflected- light image formed of the reflected- light reflected from the target area upon the irradiation thereof by the reference-light, respectively,

display means for displaying a fluorescent- light image based on the on the obtained fluorescent-light image and the obtained reflected-light image and a standard-image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the reference-light emitting means, the image obtaining means, and the display means, further comprising

a excitation light emission control line, an illuminating-light emission control line, an image obtainment control line, and a display control line, for electrically connecting the excitation light emitting means, the illuminating light-emitting means, the image obtaining means, and the display means, respectively, to the image display controlling means, wherein

the illuminating-light means emits the illuminating-light in response to the control signal of the illuminating-light emission control line being in the OFF state,

the image obtaining means switches to a standard-image obtaining mode in response to the control signal of the image obtainment control line being in the OFF state,

the display means switches to the standard-image obtaining mode in response to the control signal of the display control line being in the OFF state, further comprising

a disconnection detecting means for detecting that at least one control line from among the illuminating- light emission control line, the image obtainment control line, and the display control line is disconnected, and

a standard-image display controlling means for causing, in response to a detection signal from said disconnection detecting means, the control signal of the control line of from among the illuminating-light emission control line, the image obtainment emission control line, and the display control line that have not been short-circuited to be in the OFF state.

11. (currently amended): An apparatus for displaying a fluorescent-light image as defined in claim ~~5~~, 6, 7, 8, 9, or 10, further comprising

input means for causing the illuminating-light to be emitted, the image obtaining means to be switched to the standard-image obtaining mode, and the display means to be switched to the standard-image displaying mode when an operational irregularity occurs in the image display controlling means.

12. (currently amended): An apparatus for displaying a fluorescent-light image as defined in claim ~~5~~, 6, 7, 8, 9, or 10, wherein

the display means comprises a single display apparatus that switches between displaying the fluorescent-light image and the standard-image.

13. (original): An apparatus for displaying a fluorescent-light image as defined in claim 11, wherein

the display means is provided with a single display apparatus that switches between displaying the fluorescent-light image and the standard-image.

14. (currently amended): An apparatus for displaying a fluorescent-light image as defined in claim ~~5~~, 6, 7, 8, 9, or 10,

the display means is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively.

15. (original): An apparatus for displaying a fluorescent-light image as defined in claim 11,

the display means is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively.

16. (original): An apparatus for displaying a fluorescent-light image as defined in claim 7, or 8, wherein

the display apparatus is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively, and

in response to the detection signal indicating that an operational irregularity has occurred in any of the image obtaining portions, the display apparatus, from among said two display

apparatuses, that had been displaying the image obtained by the image obtaining portion for which an operational irregularity has been detected does not display an image.

17. (original): An apparatus for displaying a fluorescent-light image as defined in claim 7, or 8, wherein

the display apparatus is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively, and

in response to the detection signal indicating that an operational irregularity has occurred in any of the image obtaining portions, the display apparatus, from among said two display apparatuses, that had been displaying the image obtained by the image obtaining portion for which an operational irregularity has been detected displays a freeze-frame image.

18. (original): An apparatus for displaying a fluorescent-light image as defined in claim 7, or 8, wherein

the display apparatus is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively, and

in response to the detection signal indicating that an operational irregularity has occurred in any of the image obtaining portions, the display apparatus, from among said two display apparatuses, that had been displaying the image obtained by the image obtaining portion for which an operational irregularity has been detected displays an message indicating that an operation irregularity has occurred in an image obtaining portion.

19. (currently amended): An apparatus for displaying a fluorescent-light image as defined in claim ~~5~~, 6, 7, 8, 9, or 10, wherein the excitation light source is a GaN semiconductor laser.

20. (new): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
light guiding means for guiding the excitation light and the illuminating-light to a target area,

a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area upon the irradiation thereof by the excitation light and a standard-image formed of the reflected-light reflected from the target area upon the irradiation thereof by the illuminating light, respectively,

display means for displaying a fluorescent- light image based on the obtained fluorescent-light image and a standard- image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the image obtaining means, and the display means, further comprising

excitation light irregularity detecting means for detecting that an operational irregularity has occurred in the excitation light emitting means,

a standard-image display controlling means for causing, in response to a detection signal from said excitation light irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to a standard- image obtaining mode, and the display means to switch to the standard-image display mode, and

input means for causing the illuminating-light to be emitted, the image obtaining means to be switched to the standard-image obtaining mode, and the display means to be switched to the standard-image displaying mode when an operational irregularity occurs in the image display controlling means.

21. (new): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
light guiding means for guiding the excitation light and the illuminating-light to a target area,

a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area upon the irradiation thereof by the excitation light and a standard-image formed of the reflected- light reflected from the target area upon the irradiation thereof by the illuminating light, respectively,

display means for displaying a fluorescent- light image based on the obtained fluorescent- light image and a standard- image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the image obtaining means, and the display means, further comprising

excitation light irregularity detecting means for detecting that an operational irregularity has occurred in the excitation light emitting means, and

a standard-image display controlling means for causing, in response to a detection signal from said excitation light irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to a standard- image obtaining mode, and the display means to switch to the standard-image display mode,

wherein the display means is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively.

22. (new): An apparatus for displaying a fluorescent-light image, comprising
excitation light emitting means for emitting a excitation light,
illuminating-light emitting means for emitting an illuminating-light,
light guiding means for guiding the excitation light and the illuminating-light to a target area,

a single image obtaining means provided with separate image obtaining portions for obtaining a fluorescent- light image formed of the fluorescent-light emitted from the target area

upon the irradiation thereof by the excitation light and a standard-image formed of the reflected-light reflected from the target area upon the irradiation thereof by the illuminating light, respectively,

display means for displaying a fluorescent- light image based on the obtained fluorescent-light image and a standard- image based on the obtained standard-image,

an image display controlling means for controlling the excitation light emitting means, the illuminating- light emitting means, the image obtaining means, and the display means, further comprising

excitation light irregularity detecting means for detecting that an operational irregularity has occurred in the excitation light emitting means, and

a standard-image display controlling means for causing, in response to a detection signal from said excitation light irregularity detecting means, the illuminating- light to be emitted from the illuminating-light emitting means, the image obtaining means to switch to a standard- image obtaining mode, and the display means to switch to the standard-image display mode,

wherein the excitation light source is a GaN semiconductor laser.

23. (new): An apparatus for displaying a fluorescent-light image as defined in claim 20, wherein the display means is provided with a single display apparatus that switches between displaying the fluorescent-light image and the standard-image.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No. 09/919,853
Attorney Docket No. Q65690

24. (new): An apparatus for displaying a fluorescent-light image as defined in claim 20, wherein the display means is provided with two display apparatuses that display a fluorescent-light image and a standard-image, respectively.